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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BODDIE, WILLIAM

ART UNIT

PAPER NUMBER

2629

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/517,108	Applicant(s) SEMPEL ET AL.	
	Examiner WILLIAM L. BODDIE	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11, 29-31 and 33-35 is/are pending in the application.
- 4a) Of the above claim(s) 33-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11 and 29-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In an amendment dated February 3rd, 2009 the Applicants traversed the rejections of claims 11, and 29-31. Currently claims 11, 29-31 are currently pending.

Response to Arguments

2. Applicant's arguments filed February 3rd, 2009 have been fully considered but they are not persuasive.

3. On pages 2-3 of the Remarks, the Applicants argue that Tajima does not disclose determination of a selection sequence of gate lines is based on the data content of the display data.

Specifically the Applicants argue that Tajima's determination, based on power consumption or a different charging and discharging power of the A-driver, is not equivalent to the display data content which is recited in the claim as being the basis for the determination.

The Examiner must respectfully disagree. The effect the display data content has on the selection sequence selected by Tajima is best shown in figures 12a-13c. These figures show the differences in each selection sequence with the two different display data contents, figures 12a and 13a.

Applicants are also directed to column 2, lines 6-19 for example, which expressly disclose the detection of differences between the display data set (data content) for the display so that the selection sequence which minimizes the differences is selected. This seems to the Examiner to fully disclose the limitation that the selection sequence be selected based on the display data content.

4. On pages 4-5 of the Remarks, the Applicants argue that Konno does not disclose selecting a line between a first and a last line of a first set of lines of the display and thereafter alternatively selecting and scanning a lower order line and a higher order line relative to the first selected line. Specifically the Applicants point to figure 19 of Konno which allegedly discloses the simultaneous selection and scanning of lower and higher order lines.

The Examiner must respectfully disagree. While there is undeniably *some* overlap in the scan pulses of the n and $n+1$ lines in figure 19 the pulses are certainly not simultaneous. The scan pulses in figure 19 overlap for only half of their duty cycle. This overlap is seen as encompassed in the broadest reasonable interpretation of the current claim language. The current limitation only requires that a line be selected and "thereafter alternately selecting and scanning a lower order line and a higher order line." Konno discloses, in figure 19, that the order of selection and scanning occurs in the following order: n , $n+1$, $n-1$, $n+2$... There is no limitation which requires that there be no overlap amongst the selecting and scanning. The only requirement is that the alternating selection occurs after the selection of a line. The selecting of the n gate line of Konno is seen to begin when the scan pulse is immediately applied. Furthermore Konno expressly describes the manner of selection as "alternately selecting" (col. 21, line 58).

As shown above the rejections are seen as proper and sufficient to reject the claims as currently worded. As such the rejections are maintained below.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by Tajima et al. (US 6,636,187).

With respect to claim 29, Tajima discloses, a display device comprising:

a display unit that is configured to display data content on a plurality of lines (fig. 9),

a control unit (482 in fig. 9) that is configured to select and scan the plurality of lines based on a select sequence of a plurality of line selection sequences (first and second scan sequencer in fig. 9),

wherein the control unit is configured to select the select sequence based on the data content (col. 10, lines 36-41; control unit selects the scan sequence that will result the least amount of changing display data; also note fig. 11).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al. (US 6,448,952) in view of Konno et al. (US 6,940,481).

With respect to claim 11, Toyoda discloses, a method of scanning lines in a display (fig. 1), comprising:

selecting a first set of sequential lines of the display ($Y2(1)$ - $Y2(n)$ in fig. 1) and thereafter scanning lines relative to a first selected line until all the lines of the first set have been scanned (col. 16, lines 24-30), and

selecting a second set of sequential lines of the display ($Y1(1)$ - $Y1(n)$ in fig. 1) and thereafter scanning lines relative to a first selected line of the second set until all lines of the second set of lines have been scanned (col. 16, lines 24-30),

wherein a line in the first set is selected simultaneously with a line in the second set (col. 16, line 27).

Toyoda does not expressly disclose the alternate scanning method.

Konno discloses, a method of scanning lines in a display, comprising:

selecting a line (line n in fig. 19) between a first and a last line of a first set of sequential lines ($1 \dots (n+n/2)$) of the display and thereafter alternately selecting and scanning a lower order line (line $n+1$) and a higher order line (line $n-1$) relative to the first selected line until all lines of the first set have been scanned (fig. 19).

Konno and Toyoda are analogous art because they are both from the same field of endeavor namely scanning methods for active matrix displays.

At the time of the invention it would have been obvious to one of ordinary skill in the art to replace the consecutive scanning of the individual panels of Toyoda with the alternating scanning taught by Konno.

The motivation for doing so would have been to reduce a selection period and achieve good motion images (Konno; col. 21, line 62 – col. 22, line 5).

To further explain how the combination teaches all of the claim limitations, it is seen as obvious one of ordinary skill in the art would replace the sequential scanning of $Y2(1-n)$ with the alternate scanning of Konno. Likewise, replacing the sequential scanning of $Y1(1-n)$ of Toyoda with the alternate scanning is also seen as obvious.

As to the last set of limitations requiring that a lower order line in the first set be selected simultaneously with a higher order line in the second set and vice versa, this should will also be apparent upon the combination. To explain, upon combining, figure 19 of Konno will represent the scanning order of both the upper and lower portions of Toyoda. Therefor when a lower order line in the first set of Toyoda, $Y2(n+1)$ for example, is selected a higher order line in the second set of Toyoda, $Y1(n-1)$, will also be simultaneously be selected, and vice versa.

9. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima et al. (US 6,636,187) in view of Herbert (US 6,014,125).

With respect to claim 30, Tajima discloses, the display device of claim 29 (see above).

Tajima does not expressly disclose wherein the data is classified as text or graphics and the select sequence selected based on the data classification. However it should be noted that it is likely that text displays, with often static, unchanging data, will result in a selection of scan sequence 1. Likewise, graphical display often involves dynamic, motion data and will likely result in selection of scan sequence 2.

Herbert discloses, wherein data content is classified using a classification that includes text and graphics (col. 4, lines 61-67), and the control unit is configured to select the select sequence timing based on the classification of the data content (col. 4, lines 61-67).

Tajima and Herbert are analogous art because they are from the same field of endeavor namely flat panel display device control circuitry, specifically scan timing and selection.

At the time of the invention it would have been obvious to one of ordinary skill in the art to also select the scan sequence of Tajima based on whether the data is text or graphics, as taught by Herbert.

The motivation for doing so would have been to reduce screen swimming (Herbert; col. 3, lines 1-4).

10. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima et al. (US 6,636,187) in view of Kurumisawa et al. (US 6,262,704).

With respect to claim 31, Tajima discloses, the display device of claim 29 (see above).

Tajima does not expressly disclose, wherein the control unit is configured to select the select sequence based on whether the device is in a standby mode of operation.

Kurumisawa discloses, wherein a scanning select sequence is based on whether the device is in a standby mode of operation (Abstract).

Kurumisawa and Tajima and analogous art because they are both from the same field of endeavor namely, scan line control.

At the time of the invention it would have been obvious to one of ordinary skill in the art to alter the scan sequence of the display of Tajima such that less lines are scanned in when the display is in a standby state, as taught by Kurumisawa.

The motivation for doing so would have been to further lower power consumption of the display (Kurumisawa; Abstract).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM L. BODDIE whose telephone number is (571)272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/William L Boddie/
Examiner, Art Unit 2629
8/13/09